

CLAIM AMENDMENTS

1-21 (canceled)

22. (currently amended) An apparatus for subjecting a substrate to a localized liquid treatment for cleaning and/or etching of the substrate, said the apparatus comprising:
~~means support for holding said the substrate,~~
~~a first supply system adapted to supply a liquid on a first part of the surface of said the~~
~~substrate, and~~
~~a second supply system adapted to supply a gaseous tensio-active substance to a second~~
~~part of said the substrate, the second part of the substrate substantially adjacent to the first part,~~
~~which is treated by said liquid, said gaseous substance being at least partially miscible with said liquid~~
~~and when mixed with said liquid yielding a mixture having a surface tension lower than that of said~~
~~liquid wherein the first and second supply systems are positioned to inhibit the liquid from~~
~~substantially contacting the second part of the substrate and to cause the liquid and the gaseous~~
~~tensio-active substance to mix at a boundary between the first and second part of the substrate~~
~~creating a mixture having a lower surface tension than the liquid, thereby inhibiting wherein the~~
~~mixture further inhibits the liquid from substantially contacting said the second part of the substrate.~~

23. (currently amended) An apparatus according to claim 22, further comprising a rotational device wherein said the rotational devices device rotates the substrate around an axis which is perpendicular to said the substrate, the axis being through a geometric center of said the substrate.

24. (currently amended) An apparatus according to claim 23, wherein the substrate is circular shaped and has a first side and a second side, the first side having an annular edge area,

wherein the first supply system includes at least one nozzle adapted to supply a stream of liquid on the annular edge area of said the substrate;

wherein the second supply system includes at least one nozzle adapted to dispense a gaseous tensio-active substance on an area of said the first side adjacent to said the annular edge area, the area of said the first side being closer to the center of the substrate than the annular edge area; and

wherein the at least one nozzles of the first and second supply systems supply a contiguous stream of fluid.

25. (previously presented) An apparatus according to claim 24, wherein the substrate is horizontally placed.

26. (currently amended) An apparatus according to claim 24, wherein the at least one nozzles of the first and second supply systems are positionable on any location along a fixed radius of said the substrate.

27. (currently amended) An apparatus according to claim 24, further comprising a nozzle adapted to direct a stream of a treatment liquid onto the entire second side of said the substrate.

28. (currently amended) An apparatus according to claim 22, wherein the substrate has a geometric center, an axis which is perpendicular to said the substrate at the geometric center of said the substrate, a central part around the axis of the substrate and an annular edge,

wherein said the first supply system includes a first annular channel adapted to supply the liquid to the entire annular edge area of the surface of said the substrate,

wherein said the second supply system includes a central channel adapted to supply a gaseous substance to the central part of said the substrate, the central channel being coaxial with the axis of the substrate, and

wherein said the second supply system further includes a second annular channel placed concentrically with respect to the first channel and closer to the geometric center of said the substrate, said the second channel adapted to guide the gaseous substance coming from the central part of said the substrate, in order to prevent said the liquid from touching said the central part.

29. (currently amended) An apparatus according to claim 23, wherein the substrate has a central part around the axis of the substrate and an annular edge,

wherein said the first supply system includes a first annular channel adapted to supply the liquid to the entire annular edge area of the surface of said the substrate,

wherein said the second supply system includes a central channel adapted to supply a gaseous substance to the central part of said the substrate, the central channel being coaxial with the axis of the substrate, and

wherein said the second supply system further includes a second annular channel placed concentrically with respect to the first channel and closer to the geometric center of said the

substrate, said the second channel adapted to guide the gaseous substance coming from the central part of said the substrate, in order to prevent said the liquid from touching said the central part.

30. (currently amended) An apparatus according to claim 28, further comprising a rotational device, wherein the rotational device rotates the apparatus around an axis which is perpendicular to said the substrate and which is through the geometric center of said the substrate.

31. (previously presented) An apparatus according to claim 28, wherein the substrate has a first side and a second side, and further comprising a nozzle adapted to dispense a stream of a treatment liquid on the entire second side.

32. (currently amended) An apparatus according to claim 28, further comprising a sealing device positioned between said the substrate and an outer wall of said the second annular channel.

33. (currently amended) An apparatus according to claim 22, wherein the substrate is circular shaped and has two sides with an annular edge and an outer rim, and further comprising: a container filled with an amount of treatment liquid so that a pressure is maintained above the surface of said the amount of treatment liquid, said the pressure being less than or equal to an ambient pressure, said the container having a narrow gap in one side, into which said the circular substrate is partially inserted, so that at least a portion of said the annular edge and said the outer rim of said the substrate is immersed in said the liquid,

at least one pair of nozzles, one nozzle of said the pair on each side of said the substrate, directing a stream of a gaseous substance at a border area between said the container and said the substrate.

34. (currently amended) An apparatus according to claim 23, wherein the substrate is circular shaped and has two sides with an annular edge and an outer rim, and further comprising:

a container filled with an amount of treatment liquid so that a pressure is maintained above the surface of said the amount of treatment liquid, said the pressure being less than or equal to an ambient pressure, said the container having a narrow gap in one side, into which said the circular substrate is partially inserted, so that at least a portion of said the annular edge and said the outer rim of said the substrate is immersed in said the liquid,

at least one pair of nozzles, one nozzle of said the pair on each side of said the substrate, directing a stream of a gaseous substance at a border area between said the container and said the substrate.

35. (previously presented) An apparatus according to claim 33, wherein the substrate is positioned in a horizontal plane

36. (currently amended) An apparatus according to claim 33, further comprising a rotational device, the rotational device rotating the container around an axis which is perpendicular to said the substrate, the axis being through a geometric center of said the substrate.

37. (currently amended) An apparatus according to claim 22, wherein said the first supply system includes a central channel used to supply a stream of liquid to the surface of said the substrate and a second channel, concentrically surrounding the first channel, and draining said the stream of liquid from the surface of said the substrate; and

wherein said the second supply system includes a third channel, concentrically surrounding the second channel and used to supply a stream of a tensio-active substance to the substrate surface.

38. (previously presented) An apparatus according to claim 37, wherein the substrate is positioned in a horizontal plane.

39. (currently amended) An apparatus according to claim 37, wherein the second supply system further comprises a fourth channel, the fourth channel being concentrically placed with respect to said the third channel, the fourth channel being used to drain said the gaseous tensio-active substance from the substrate surface.

40. (currently amended) An apparatus according to claims 37, further comprising a sealing device, the sealing device positioned between said the substrate and an outer wall of said the second channel.

41. (currently amended) An apparatus according to claim 39 further comprising sealing devices, the sealing devices positioned between said the substrate and an outer wall of said the second channel and between said the substrate and an outer wall of the apparatus.

42. (previously presented) An apparatus according to claim 41 wherein the outer wall of the apparatus is an outer was of the fourth channel.

43. (previously presented) An apparatus according to claim 41 wherein the outer wall of the apparatus is an outer was of the third channel.

44. (currently amended) An apparatus according to claim 22,
wherein the first supply system includes a central channel, the central channel containing an amount of a liquid such that said the liquid is in contact with the surface of said the substrate, and that a pressure is maintained above a surface of said the amount of liquid, said the pressure being less than or equal to an ambient pressure on the substrate surface, and
wherein said the second supply system includes a second channel, the second channel concentrically surrounding the central channel, and supplying a stream of a gaseous tensio-active substance on the surface of said the substrate.

45. (previously presented) An apparatus according to claim 44, wherein the substrate is positioned in a horizontal plane.

46. (currently amended) An apparatus according to claim 44, wherein the second supply system further comprises a third channel, the third channel concentric with respect to the second channel, the third channel being used to drain said the gaseous tensio-active substance from the substrate surface.

47. (previously presented) An apparatus according to claim 44, further comprising a sealing device, the sealing device positioned between the substrate and an outer wall of the central channel.

48. (previously presented) An apparatus according to claim 46, further comprising sealing devices, the sealing devices being positioned between the substrate and an outer wall of the central channel and between the substrate and an outer wall of the third channel.